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PATENT

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Martyn Vincent Twigg : Art Unit:  
Application No.: To Be Assigned : Examiner:  
Filed: Herewith :  
FOR: REGENERATING SULFUR POISONED :  
DIESEL CATALYSTS :

PRELIMINARY AMENDMENT

Assistant Commissioner for Patents  
Washington, DC 20231

SIR:

Prior to examination, please amend the above-identified application as follows.

IN THE SPECIFICATION:

Please replace the paragraph beginning at page 2, line 10 with the following:

According to one aspect, the invention provides a diesel (compression ignition) engine (which typically operate at approximately  $\lambda = 3$ , with a range of between 1.5 (high load) and 5 (low load/idle)) having combustion management means and an exhaust gas aftertreatment system without a NO<sub>x</sub> trap, which system comprising a platinum group metal (PGM) catalyst liable to be poisoned by fuel sulfur to cause significant degradation of catalyst performance, which engine is fuelled, at least intermittently, by a diesel fuel containing such levels of sulfur as to cause poisoning of the catalyst, wherein the combustion management means is effective to modulate the air/fuel ratio ( $\lambda$ ) to 0.90, preferably 0.95, or richer to provide a series of peak enrichments for a time which is in aggregate sufficient to cause release of significant quantities of sulfur-containing species from the catalyst or catalyst components, and wherein each regeneration is for 10 seconds to 10 minutes, whereby the catalyst is regenerated.